One to one tuition

Moderate impact for high cost, based on extensive evidence.

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One to one tuition involves a teacher, teaching assistant or other adult giving a pupil intensive individual support. It may happen outside of normal lessons as additional teaching – for example as part of Extending school time or a Summer school – or as a replacement for other lessons.

How effective is it?

Evidence indicates that one to one tuition can be effective, delivering approximately five additional months' progress on average.

Short, regular sessions (about 30 minutes, three to five times a week) over a set period of time (six to twelve weeks) appear to result in optimum impact. Evidence also suggests tuition should be additional to, but explicitly linked with, normal teaching, and that teachers should monitor progress to ensure the tutoring is beneficial. Studies comparing one to one with small group tuition show mixed results. In some cases one to one tuition has led to greater improvement, while in others tuition in groups of two or three has been equally or even more effective. The variability in findings may suggest it is the particular type or quality of teaching enabled by very small groups that is important, rather than the precise size of the group.

Programmes involving Teaching assistants or volunteers can have a valuable impact, but tend to be less effective than those using experienced and specifically trained teachers, which have nearly twice the effect on average. Where tuition is delivered by volunteers or teaching assistants there is evidence that training and the use of a structured programme is advisable.

How secure is the evidence?

Overall, the evidence is consistent and strong, particularly for younger learners who are behind their peers in primary schools, and for subjects like reading and mathematics (there are fewer studies at secondary level or for other subjects). Effects on pupils from disadvantaged backgrounds also tend to be particularly positive.

In the UK, four recent evaluations of one to one tuition interventions (see Catch Up Numeracy, Catch Up Literacy, REACH, and Switch-on Reading) found average impacts of between three and six months' additional progress, suggesting that positive impacts can be successfully replicated in English schools.

For full references, please click here.

What are the costs?

A typical effective programme might involve 30 minutes tuition, five times a week, for 12 weeks. This would require about four full days of a teacher's time, which is estimated to cost approximately £700 per pupil. These costs would be reduced by using a teaching assistant to deliver the programme, but the evidence suggests that impacts are generally higher when delivered by teachers. Overall the cost is rated as high.

There is some evidence that Small group tuition can deliver similar benefits at a lower cost.

One to one tuition: What should I consider?

Before you implement this strategy in your learning environment, consider the following:

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1. One to one tuition is very effective in helping learners catch up, but is relatively expensive. Have you considered using Small group tuition instead and evaluating the impact?
2. Tuition is more likely to make an impact if it is additional to and explicitly linked with normal lessons.
3. Have you considered how you will support pupils and regular class teachers to ensure the impact is sustained once they return to normal classes?
4. For one to one tuition led by teaching assistants, interventions are likely to be particularly beneficial when the teaching assistants are experienced and well-trained. What training and support have you provided?
5. A number of one to one programmes delivered by teaching assistants have been rigorously evaluated and shown to be effective. If you are buying a programme, have you considered one of these?

Technical Appendix

Definition

One to one tuition involves a teacher, teaching assistant or other adult giving a pupil intensive tuition on a one to one basis. It is often used as catch up or remedial support for learners who are falling behind their peers with important skills or concepts. It may also be offered to other learners such as high attainers, or in subjects like music when teaching an instrument.

Tuition may be during normal lessons (withdrawal) or it may be undertaken outside of the pupil's normal lessons, for example as part of after school programmes or Summer schools.

Such tuition is usually undertaken by trained teachers or Teaching assistants or other adults, such as volunteers, and not by fellow students (see Peer tutoring).

It is distinguished from Mentoring which is often undertaken by volunteers who focus on building confidence, or developing resilience and character, rather than directly or only focusing on teaching or tutoring specific academic skills.

Search terms: one to one tuition/tutoring; volunteer tutoring programs; reading recovery; early literacy tutoring programs

Evidence Rating

There are seven meta-analyses of one to one tuition, mainly using well-controlled experiments or trials which were undertaken in schools using pupil attainment data. Six of these were published in the last ten years. The pooled effect sizes vary from 0.05 to 0.70 (nearly two-thirds of a standard deviation). The causes of variation were explored in these studies; the experience and training of tutors and the structure and intensity of the tutoring were identified as important influences. Overall the evidence is rated as extensive.

Some reviews published since the effect size for this strand was calculated have concluded that one to one tuition by teachers does not, on average, have a greater impact than one to one tuition by paraprofessionals. In contrast, this analysis suggests that it does. We will assess the reason for the difference in these conclusions when this strand is next updated, but for now have retained the conclusions suggested by the Toolkit analysis, in line with the Toolkit methodology.

Additional Cost Information

Costs of one to one tuition per pupil cited in the single studies in this strand range from £112 per pupil (Maxwell et al. 2014) to £2600 (Tanner et al. 2011). The median cost is about £700 per pupil per year.

The average salary of a full-time qualified teacher is £34,600 a year (source: https://getintoteaching.education.gov.uk/competitive-salary-and-great-benefits/). A typical effective programme might involve 30 minutes tuition, five times a week, for 12 weeks. This would require about four full days of a teacher's time, which is estimated to cost approximately £700 per pupil. These costs would be reduced by using a teaching assistant to deliver the programme, but the evidence suggests that impacts are generally higher for teachers. Overall, the cost is rated as high.

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Catch Up® Literacy: Evaluation Report and Executive Summary

EEF, London

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8 *NfER*

Catch Up® Numeracy: Evaluation Report and Executive Summary

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11 *Slavin, R. E., Lake, C., Davis, S., & Madden, N. A. (Abstract)*

Effective programs for struggling readers: A best-evidence synthesis

Educational Research Review, 6(1), 1-26

(2011)

12 *Tanner, E., Brown, A., & Day, N. Kotecha, M., Low, N., Morrell, G., Turczuk, O., Brown, V. Collingwood, A.*

Evaluation of Every Child a Reader (ECaR) Research report

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13 *Torgerson, C.J., Wiggins, A., Torgerson, D.J., Ainsworth, H., Barmby, P., Hewitt, C., Jones, K., Hendry, V., Askew, M., Bland, M. Coe, R., Higgins, S., Hodgen, J., Hulme, C. & Tymms, P.*

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14 *Washington State Institute for Public Policy (Abstract)*

Tutoring: By adults, one-on-one, structured

Washington State Institute for Public Policy, Seattle Wa.

(2014a)

15 *Washington State Institute for Public Policy (Abstract)*

Tutoring: By adults, one-on-one, nonstructured

Washington State Institute for Public Policy, Seattle Wa.

(2014b)

Summary of effects

Meta-analyses	Effect size	FSM effect size	
D'Agostino, J. V., & Harmey, S. J., (2016)	0.59	-	(Reading recovery)
Elbaum, B., Vaughn, S.M., Hughes, M.T. & Moody, S.M., (2000)	0.41	-	(Elementary reading)
Jun, S.W., Ramirez, G., & Cumming, A., (2010)	0.70	-	(by adults)
Ritter, G.W., Barnett, J.H., Genny, C.S., & Albin, G.R., (2009)	0.30	-	(volunteer tutoring)
Slavin, R. E., Lake, C., Davis, S., & Madden, N. A., (2011)	0.39	-	(by teachers and paraprofessionals)
Washington State Institute for Public Policy, (2014a)	0.53	-	(structured tutoring)
Washington State Institute for Public Policy, (2014b)	0.05	-	(non-structured tutoring)
Single Studies	**Effect size**	**FSM effect size**	
Gorard, S., See, B.H. & Siddiqui, N. (2014)	0.24	0.36	
Maxwell, B., Connolly, P., Demack, S., O'Hare, L., Stevens, A. & Clague, L. (2014)	-0.06	0.18	
NFER (2015)	0.12	0.00	
NfER (2014)	0.21	-	(intervention vs control)
	0.27	-	(time equivalent one to one vs control)
Sibieta, L. (2016)	0.33	-	(EEF REACH)
	0.51	-	(REACH + Language comprehension)
Tanner, E., Brown, A., & Day, N. Kotecha, M., Low, N., Morrell, G., Turczuk, O., Brown, V. Collingwood, A. (2011)	0.14	-	
Torgerson, C.J., Wiggins, A., Torgerson, D.J., Ainsworth, H., Barmby, P., Hewitt, C., Jones, K., Hendry, V., Askew, M., Bland, M. Coe, R., Higgins, S., Hodgen, J., Hulme, C. & Tymms, P. (2011)	0.33	-	
Weighted mean	**0.37**		

The right hand column provides detail on the specific outcome measures or, if in brackets, details of the intervention or control group.

Meta-analyses abstracts

2 *D'Agostino, J. V., & Harmey, S. J. (2016)*

Reading Recovery is one of the most researched literacy programs worldwide. Although there have been at least 4 quantitative reviews of its effectiveness, none have considered all rigorous group-comparison studies from all implementing nations from the late 1970s to 2015. Using a hierarchical linear modeling (HLM) v-known analysis, we examined if effects differed in the United States versus other nations, if experiments yielded larger effects than quasi-experiments, if the effects changed over time, and if the type of outcome mediated the impact estimates. We also considered the sustained effects of the intervention. After reviewing 203 primary studies, we identified 16 that met our criteria, such as treatment fidelity and experimental or high-quality quasi-experimental design. Based on a random effects model, the estimated overall effect was .59, with larger effects for outcomes based on the Observation Survey (Clay, 2013), and stronger effects in certain literacy domains, such as text reading, print knowledge, and general literacy. Although United States studies produced a larger point estimate (.61) compared to other countries (.52), and experiments (.69) yielded a larger estimate than quasi-experiments (.43), neither difference was statistically significant. Overall, effects did not change over time, but effects based on the Observation Survey did improve significantly from earlier to later studies. We also found that the long-term effect may diminish, but there were too few studies to estimate the sustained impact with confidence. The .59 overall effect places Reading Recovery in the top 10% in terms of impact of early literacy programs reviewed by the What Works Clearinghouse.

3 *Elbaum, B., Vaughn, S.M., Hughes, M.T. & Moody, S.M. (2000)*

A meta-analysis of supplemental, adult-instructed one-to-one reading interventions for elementary students at risk for reading failure was conducted. Reading outcomes for 42 samples of students (N = 1,539) investigated in 29 studies reported between 1975 and 1998 had a mean weighted effect size of 0.41 when compared with controls. Interventions that used trained volunteers or college students were highly effective. For Reading Recovery interventions, effects for students identified as discontinued were substantial, whereas effects for students identified as not discontinued were not significantly different from zero. Two studies comparing one-to-one with small-group supplemental instruction showed no advantage for the one-to-one programs.

5 *Jun, S.W., Ramirez, G., & Cumming, A. (2010)*

What does research reveal about tutoring adolescents in literacy? We conducted a meta-analysis, identifying 152 published studies, of which 12 met rigorous inclusion criteria. We analysed the 12 studies for the effects of tutoring according to the type, focus, and amount of tutoring; the number, age, and language background of students; and the quality of the research. Despite variability, these studies suggest benefits, notably for cross-age tutoring, reading, and small tutoring programs of lengthy duration.

9 *Ritter, G.W., Barnett, J.H., Genny, C.S., & Albin, G.R. (2009)*

This meta-analysis assesses the effectiveness of volunteer tutoring programs for improving the academic skills of students enrolled in public schools Grades K–8 in the United States and further investigates for whom and under what conditions tutoring can be effective. The authors found 21 studies (with 28 different study cohorts in those studies) reporting on randomized field trials to guide them in assessing the effectiveness of volunteer tutoring programs. Overall, the authors found volunteer tutoring has a positive effect on student achievement. With respect to particular subskills, students who work with volunteer tutors are likely to earn higher scores on assessments related to letters and words, oral fluency, and writing as compared to their peers who are not tutored.

1 *Slavin, R. E., Lake, C., Davis, S., & Madden, N. A. (2011)*
1

This article reviews research on the achievement outcomes of alternative approaches for struggling readers ages 5–10 (US grades K-5): One-to-one tutoring, small-group tutorials, classroom instructional process approaches, and computer-assisted instruction. Study inclusion criteria included use of randomized or well-matched control groups, study duration of at least 12 weeks, and use of valid measures independent of treatments. A total of 97 studies met these criteria. The review concludes that one-to-one tutoring is very effective in improving reading performance. Tutoring models that focus on phonics obtain much better outcomes than others. Teachers are more effective than paraprofessionals and volunteers as tutors. Small-group, phonetic tutorials can be effective, but are not as effective as one-to-one phonetically focused tutoring. Classroom instructional process programs, especially cooperative learning, can have very positive effects for struggling readers. Computer-assisted instruction had few effects on reading. Taken together, the findings support a strong focus on improving classroom instruction and then providing one-to-one, phonetic tutoring to students who continue to experience difficulties.

1 *Washington State Institute for Public Policy (2014a)*
4

The tutoring programs included in this meta-analysis are structured, systematic approaches to tutoring struggling students in specific English language arts and/or mathematics skills. The evaluated programs include a variety of specific programs and curricula such as (in no particular order) Reading Recovery, Mathematics Recovery, Edmark Reading Program, Howard Street Tutoring, and Early Intervention Program. The programs provide, on average, about 30 hours of tutoring time to an individual student each year. Tutors are typically certificated teachers or specially trained adults (e.g. instructional aides and community volunteers). Tutors receive approximately ten hours of training per year with a focus on the specific content and general tutoring strategies.

1 *Washington State Institute for Public Policy (2014b)*
5

The tutoring programs included in this analysis provide one-on-one assistance to struggling students in English language arts and/or mathematics. The evaluated programs typically allow tutors to exercise their own discretion when selecting and implementing tutoring strategies. The programs provide, on average, about 30 hours of tutoring time to an individual student each year. The tutors are non-certificated adults (e.g. instructional aides and community volunteers) who receive approximately two hours of training per year.

1   *Wasik, B. A., & Slavin, R. E. (1993)*

6   The tutoring programs included in this analysis provide one-on-one assistance to struggling students in English language arts and/or mathematics. The evaluated programs typically allow tutors to exercise their own discretion when selecting and implementing tutoring strategies. The programs provide, on average, about 30 hours of tutoring time to an individual student each year. The tutors are non-certificated adults (e.g. instructional aides and community volunteers) who receive approximately two hours of training per year.